

CERTIFICATE

(1) EC-Type Examination

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 03ATEX2244 X** Issue Number: **3**

(4) Equipment: **Temperature Sensor Assembly, Type XPS1**

(5) Manufacturer: **Thermo Electric Instrumentation B.V.**

(6) Address: **Coenecoop 71-73, 2741PH Waddinxveen, The Netherlands**

(7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the directive.

The examination and test results are recorded in confidential test report number NL/DEK/ExTR11.0008/xx.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2012

EN 60079-7 : 2007

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:



II 2 G Ex e IIC T6 ... T1 Gb

This certificate is issued on 8 July 2014 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

DEKRA Certification B.V.

R. Schuller
Certification Manager

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(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 03ATEX2244 X**

Issue No. 3

(15) **Description**

The Temperature Sensor Assembly, Type XPS1 for temperature measurement, in different versions, consists of one or more inserts, a junction box or a connection head provided with terminals and optional extension parts.

The inserts consists of a metal sheathed mineral insulated cable available with various diameters and lengths, one or two thermocouple or RTD temperature sensing elements. The tip of the mineral insulated cable is closed by welding.

The other side of the mineral insulated cable is either

- provided with a potted transition part and a cable, available with various insulating materials, with or without braiding or
- provided with a potted end, lead wires and optionally a terminal block.

Electrical data

Thermocouple sensing element 5 Vdc, 10 mA
 RTD sensing element 5 Vdc, 10 mA

Thermal data

The ambient temperature range, the service temperature range of the transition part, cables and the connection head and connection box depend on the material of the cable insulation as listed in the table below

Cable insulation	Service temperature range of the cables	Service temperature range of the transition part, the connection head and the connection box	Ambient temperature range
Silicon	-25 °C to 160 °C	-25 °C to 80 °C	-25 °C to 80 °C
Teflon	-40 °C to 180 °C	-40 °C to 80 °C	-40 °C to 80 °C

The maximum surface temperature due to process conditions (Tp) is the maximum surface temperature of any part of the assembly in contact with the explosive atmosphere.

The temperature class and the maximum surface temperature of the assemblies depend on Tp, as listed in the table below.

Tp [°C]	Temperature class of the assembly	Max. surface temperature of the assembly [°C]
80	T6	85
95	T5	100
130	T4	135
195	T3	200
295	T2	300
445	T1	450
> 445	-	Tp + 5

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 03ATEX2244 X**

Issue No. 3

Installation instructions

The instructions provided with the equipment shall be followed in detail to assure safe operation.

(16) **Test Report**

No. NL/DEK/ExTR11.0008/xx.

(17) **Specific conditions of use**

The ambient temperature range is as listed at description (15).

When the process temperature range exceeds the service temperature range of the transition part, the connection head, the connection box and the cable as listed above, it shall be verified by on-site temperature measurements, taking the worst case conditions into account, that the service temperature of these parts does not exceed the range as listed above.

The measurement report with the conclusions shall be filed together with the certificate to prove that this condition is met.

Inserts with a diameter smaller than 3 mm shall be protected against mechanical danger.

Temperature sensor assemblies with connection head and extension part shall have a degree of protection of at least IP54, provided by the user with a thermowell or equivalent component at the process side of the assembly.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. NL/DEK/ExTR11.0008/xx.